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ABSTRACT

A study examined teachers' perceptions and students' literacy motivations to assist teachers in bolstering students' self-determination and literacy competence. The theoretical framework was derived from E. L. Deci's self-determination theory which focuses on individuals' opportunities to make choices or decisions about how to behave or think as precursors to perceived control. Subjects were teachers and students in grades 3 to 6 who participated in a quantitative phase (n=68 teachers ; 374 students) and a qualitative phase (n=6 teachers; 6 students). A questionnaire was developed that represented 6 motivational domains: activity, autonomy, social, topic, individual, and writing. Student motivation was gauged by asking teachers to rate the frequency of each child's engagement in reading-related activities. Each teacher completed questionnaires on a half-dozen students. In the qualitative phase, students were videotaped during regular classroom reading lessons for 30 minutes. Teachers were interviewed after viewing a videotape of their students. Teachers' perceptions of students' literacy motivations on the questionnaire and on the personal interviews were generally consistent, with patterns of differentiation between motivation categories revealed more prominently on the teacher interviews. In general, findings confirm that teachers appear to possess an implicit theory of the association of self-determination and achievement that is highly compatible with Deci's perspective. Higher achievers were intrinsically motivated and self-determining. Less well-accomplished students were more dependent on external environmental supports for literacy. (Contains 50 references, 5 tables, and 1 figure of data. The Teacher Perceptions Questionnaire, teacher interview questions, and scoring examples are attached.) (Author/RS)

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Fall 1996

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The National Reading Research Center (NRRC) is funded by the Office of Educational Research and Improvement of the U.S. Department of Education to conduct research on reading and reading instruction. The NRRC is operated by a consortium of the University of Georgia and the University of Maryland College Park in collaboration with researchers at several institutions nationwide.

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Abstract. *This study was conducted with an end toward producing findings that could be helpful in assisting teachers to bolster students' self-determination and literacy competence. The theoretical framework is derived largely from Deci's (1975, 1980) self-determination theory which focuses on individuals' opportunities to make choices or decisions about how to behave or think as precursors to perceived control. The study, conducted with teachers and students in grades 3 to 6, contained a quantitative phase (N = 68 teachers; 374 students) and a qualitative phase (N = 6 teachers; 6 students).*

Using findings from a preliminary study (Sweet & Guthrie, 1994), a questionnaire was developed that represented six motivational domains: (1) activity; *(2)* autonomy; *(3)* social; *(4)* topic; *(5)* individual; *and (6)* writing. *Student motivation was gauged by asking teachers to rate the frequency of each child's engagement in reading-related activities, from*—Rarely *to* Often. *Each teacher completed questionnaires on a half-dozen students. Subsequent analyses were conducted using motivation summary scores for each student.*

In the qualitative phase, students were videotaped during regular classroom reading lessons for 30 min. Teachers were interviewed after viewing a videotape of their student, using interview questions that paralleled the motivational domains within the teacher questionnaire. Teachers' perceptions of students' literacy motivations on the questionnaire and on the personal interview were generally consistent, with patterns of differentiation between motivation categories revealed more prominently on the teacher interviews. In general, the findings confirm that teachers appear to possess an implicit theory of the association of self-determination and achievement that is highly compatible with Deci's perspective. Higher achievers were intrinsically motivated and self-determining. Less well-accomplished students were more dependent on external, environmental supports for literacy. Teachers were cautioned that their perceptions about students are likely to affect their teaching.

Introduction

Literature Review

Motivation theory. Several theories of motivation point to two types of motivation—intrinsic and extrinsic. Theorists and researchers (Deci, 1975; Deci & Ryan, 1985; Lepper & Greene, 1978; Malone & Lepper, 1987) draw a distinction between these motivation types. *Intrinsic motivation* refers to a person's inner desire to engage in an activity, regardless of whether the activity has an external value to someone else. An intrinsically motivated learner, for example, will choose books and read them during free time at school or at home. Such a student actively seeks opportunities to engage in book reading, often losing track of time while immersed in the task. In contrast, *extrinsic motivation* refers to a person's being prompted to engage in an activity by an incentive or anticipated outcome that is external to the activity at hand. An extrinsically motivated student, for example, will complete an assigned reading primarily to meet course requirements. Such a student is motivated to work hard because s/he views doing so as a means to an end (e.g., high report card grade) that is unrelated to the reading task.

Although both intrinsic and extrinsic motivation are in operation within our schools and classrooms, the American system of education is structured in such a way as to promote students' extrinsic motivation (Lepper & Hoddell, 1989; Ryan, Connell, & Deci, 1985). This fact is apparent when one considers that many schools and school communities focus a great deal of attention, expend considerable manpower efforts, and spend inordinate amounts of monetary resources on extrinsic motivators of student achievement. There are ways of designing reading incentive programs that minimize the extrinsic nature of a reward and there is good reason for doing so. In their meta-analytical review of research on the effects of reinforcement/reward on intrinsic motivation, Cameron and Pierce (1994) found that there is a somewhat negative effect on intrinsic motivation when individuals do a task for expected tangible rewards regardless of their level of performance. Such tasks are akin to reading incentive programs which are predicated upon students' receipt of a reward for reading the requisite number of pages or books. One way to moderately protect students' intrinsic motivation in this situation is to ensure that students get to choose which books they read (Gambrell, Almasi, Xie, & Heland, in press) and provide opportunities for them to engage in follow-up activities that link their book reading to demonstrated success on a related task.

Despite the overall reliance on extrinsic motivators, some students are or do become intrinsically motivated to succeed on school-related tasks generally, and literacy related tasks specifically. Moreover, these intrinsically motivated students choose to engage in what they perceive to be pleasureful activities, such as book reading, outside of the classroom as well. The instructional practices that teachers

employ, along with the classroom management procedures they follow, affect students' motivation. Some of these practices and procedures promote students' intrinsic motivations, while others of them prompt students to become externally oriented in terms of their motivation to engage in school and literacy-related tasks. One way to achieve an increase in students' intrinsic motivation is to construct integrated instruction that unifies reading, writing, literature, science, and social studies (see Guthrie, McCann, Hynd, & Stahl, in press; Morrow, Pressley, and Smith, 1995; Sweet, in press). Teachers who integrate instruction confirm the importance of intrinsic motivation to literacy learning (Sweet & Guthrie, 1996). These teachers described highly motivated learners as intrinsically involved, engrossed in learning, and sharply focused on lesson content. They expected their students to use higher-order strategies, to interact socially with peers, and to persist in the face of obstacles. In contrast, students who were less intrinsically motivated were expected not to exhibit this level of engagement.

Self-determination. The cognitions that accompany extrinsic motivation are fairly straight forward. When a person is motivated extrinsically by the desire to achieve an outward goal such as getting a good grade, s/he determines what is necessary to achieve this goal and modifies behavior accordingly to increase the likelihood of achieving this desired outcome. The cognitions that accompany intrinsic motivation are more complex. Why some individuals choose to read a mystery novel and find great pleasure in doing so while others do not is less clear. Self-determination theory and research findings on this topic provide us with some insight.

Self-determination theory focuses on individuals' opportunities to make choices or decisions about how to behave or think as precursors to perceived control (Deci, 1975, 1980; Deci & Ryan, 1985). Three psychological needs play an important role in self-determination theory—they are relatedness, competency, and autonomy. *Relatedness* is a sense of belonging in the classroom that is derived from social relationships. These are based on trust, caring, and mutual concern for one another's social and emotional well-being. Research has shown that children who choose to read and who read well come from homes with plenty of books, where everyone reads, and where parents encourage reading. The sense of relatedness that children acquire in homes where books and reading are common place appears to play an important role in their interest in reading. In other words, people appear to be drawn toward activities that are meaningful to others in their social environment.

A sense of relatedness can be a critical motivator of engagement in academic pursuits as well as of socially appropriate behavior in the classroom (Baumeister & Leary, 1995; Connell & Wellborn, 1991). Moreover, it has been shown that students in classrooms where teachers promote this sense of relatedness are motivated to engage in academic activities and positive social behaviors (Noddings, 1992; Wentzel, 1995). In her study of caring teachers, Wentzel (1995) found that teachers perceived to be caring by students are those who set rules and enforce them consistently, de-

mand maturity and working to one's potential, engage in democratic interactions, provide nurturance, and model interest in learning.

Competency is the second psychological component that is central to self-determination theory. Harter (1982) found that perceived competence and intrinsic motivation were positively correlated for students in upper elementary and junior high school. This finding supports the notion that feeling competent or effective when engaged in challenging activities is an important element of intrinsic motivation. Harter (1992) reports that she and her colleagues found that children who perceived themselves to be competent felt more positive about and showed less anxiety about their school performance, which in turn, led them to adopt or maintain an intrinsic motivational orientation. Conversely, she found that students with low levels of perceived competence felt less positive about their performance, were more anxious, and adopted an extrinsic motivational orientation.

Self-determination theory (Deci, 1975; Deci & Ryan, 1985, 1992) holds that intrinsic motivation is innate and that it becomes differentiated in ways which direct children's interest toward certain activities. Moreover, environmental factors influence the activities that children's intrinsic interest is directed toward by affecting their experience of competence and self-determination. According to this view, activities must be optimally challenging to be interesting and to promote intrinsic motivation. This means that the activities must not be too hard or too easy to sustain children's intrinsic motivation. Under these circumstances, children will choose to engage in activities that permit them to experience a sense of competence, such as reading a book at a comfortable level of difficulty.

Almost equally important is the element of *autonomy* or freedom, which is the third psychological component that is central to self-determination theory. The opportunity to make choices has been found to enhance intrinsic motivation to read (Gambrell & Morrow, 1996; Gambrell, Codling, & Palmer, 1996). After all, the ultimate goal of reading instruction is to cultivate students' abilities and interests so that they choose to read. Students who choose to read are motivated to read for reading's own sake. We want students who are motivated to read and who read in order to better understand themselves and their world. Research suggests that allowing students to choose the material they read promotes their motivation to pick up a book and read. So, if children are interested in dinosaurs, for example, they will be motivated to read and choose books about this and related topics. In so doing, by virtue of interacting with the text and discussing what they have read with peers and adults, students will become better readers and at the same time learn about or learn more about their interests and the world around them. Quite simply, children develop their ability to comprehend by sharing books that are meaningful to them with peers and adults.

Thus, relatedness, competence, and autonomy are the corner stones for the process of internalization (Ryan, Connell, & Grolnick, 1992). This process leads individuals toward an intrinsic orientation, on to self-regulation (Nolen, 1988; Pintrich & DeGroot, 1990) and self-regulated learning (Brown, 1980; Schunk,

1989). Teachers rate these children as more motivated, independent, and in need of less outside pressure to do their work (deCharms, 1976; Harter, 1982). At the same time, these children view their teachers as more autonomy oriented and supportive, rather than controlling. Concurrently, in elementary school, more autonomously oriented students have higher self-esteem, higher perceived cognitive competence, and are less projective in coping with perceived failure (Ryan et al., 1992). Such children are seen by teachers as more motivated and independent in school, and they themselves experience more autonomy and freedom.

Support for the importance of autonomy in students' motivations comes from research studying the differential effects of autonomy- and control-oriented teachers on students' motivational orientation. Findings from these studies indicate that an autonomy orientation, when compared to a controlling one, promotes a greater degree of students' intrinsic motivation, stronger beliefs about their intellectual competence, and a higher level of self-esteem (e.g., Deci, Schwartz, Sheinman, & Ryan, 1981; Ryan & Grolnick, 1986). Teachers who provide support for children's solving their own problems in the context of a warm, structured atmosphere are autonomy-oriented. Children in the classrooms of autonomy-oriented teachers increased in their identification with the value and importance of achievement-related behaviors, relative to children in classrooms of more controlling teachers (Ryan et al., 1992). Moreover, as reported by teachers, students who were allowed to take more responsibility and who were less externally pressured, were likely to report more self-determined regulation. Thus, through the support of autonomy, teachers have a significant impact on students' development of self-regulation and adjustment in school. In sum, teachers support for children's autonomy can enhance their self-regulatory capacities. In school, this means that when teachers afford children reasonable autonomy in learning, when the learning tasks are optimally challenging, and when the students are provided information about the relevance and meaningfulness of the required tasks, then children's motivational development can progress toward autonomy and self-regulated learning (Ryan et al., 1992).

Underlying self-determination theory is the notion that getting extrinsic rewards for interesting tasks make people feel that the reason they participated in the task was because they were receiving a reward rather than because they wanted to participate. The end result is that the self-perceived autonomy of those persons receiving a reward is undermined, thereby dampening their intrinsic motivation to participate in the interesting task. Research based on self-determination theory has shown that extrinsic rewards such as reading books for money, causes decreases in the extent to which students think they have control in a given situation and hence in their intrinsic interest in the task. That is, the person giving the reward, in this case a parent or teacher, undermines students' self-perceptions about their autonomy. Yet few reading teachers are aware of the relationship between intrinsic and extrinsic motivation and the conditions of the classroom that are associated with them (Lepper, Greene, & Nisbett, 1973).

Students whose school-related activity is externally regulated depend on parents and teachers for their motivations. These students are rated by teachers as being less independent and motivated and are described as requiring more prodding to do their work (Ryan et al., 1992). Correspondingly, children who tend to be externally regulated are seen by teachers as having lower confidence and self-esteem (Harter, 1982). In turn, these students tend to see themselves as less autonomous, less motivated, and as having less control over events and outcomes. Teachers report that a goodly number of children with a highly externally regulated style have learning difficulties and act-out frequently. External regulatory style appears to be a dominant characteristic of children who become discouraged in school and are at risk for a variety of academic and social difficulties (Grolnick, Ryan, & Deci, 1991).

In sum, self-perceptions appear to shape one's motivations. It seems that people tend to be intrinsically motivated in situations where in they feel both competent and self-determining (Deci, 1975; Deci & Ryan, 1985, 1992). So, if individuals perceive themselves as being adept at performing in particular situations (Bandura & Schunk, 1981; Schunk, 1989, 1991) and they also sense that they have significant control in that same situation (Corno & Rohrkemper, 1985; Stipek & Weisz, 1981; Weisz & Cameron, 1985), they are likely to be motivated intrinsically. If either or both of these self-perceptions were to be absent under the same conditions, then the likelihood of their being intrinsically motivated would be lessened.

Teacher perceptions and student engagement. There is a complex web of relationships that surround teacher perceptions and student engagement. Teachers' perceptions and students' perceptions have been found to mutually influence one another in a reciprocal way. Recent studies (i.e., Skinner, Wellborn, & Connell, 1990; Skinner & Belmont, 1993) have reported that teacher perceptions of student engagement were found to have reciprocal effects with students' self-report of perceived control and academic performance. Specifically, students' self-report of perceived control influenced their academic performance by promoting learning engagement, as reported by teachers; and teachers influenced positively students' perceived control via their contingency and involvement, as reported by students. Moreover, where the associations of teacher behavior on student engagement over the course of a school year were examined (Skinner & Belmont, 1993), teacher perceptions of student engagement appeared to have reciprocal effects with teachers' own behavior as well as with students' self-reports of engagement.

Apparently, students' perceived control influences their academic performance by promoting their learning engagement, and teachers positively influence students' perceived control by their involvement with students and conveying a sense of choice to them. Moreover, teachers' perceptions of student engagement appear to affect teachers' own behavior toward students and their instruction as well as students' perceptions or their own engagement. Hence, a series of influential interactions seems to occur between teachers and students wherein they affect each others' perceptions of themselves and one another, which in turn appear to precipitate behavioral

changes on both their parts in the classroom setting. Although research on teachers' perceptions is in its infancy, findings on the reciprocity that exists between teachers' perceptions and students' perceptions have implications for teachers' management of literacy instruction. Teachers who are knowledgeable about these interactions can structure particular activities and contexts that are likely to increase students' intrinsic motivations and thereby bolster students' feelings of competence and self-determination in the literacy learning environment.

As discussed earlier, the development of relatedness, competence, and autonomy enables individuals to acquire an intrinsic orientation, which in turn leads to self-regulation and self-regulated learning. Sweet and Guthrie (1994) examined factors related to these elements in studying teachers' perceptions of students' literacy engagement. Their exploratory study provided clues about how teachers perceive students' literacy motivation. The construction and analysis of teacher questionnaire data pointed toward a relatively varied set of items related to students' involvement, persistence, strategies in reading, social interaction, and writing about books. By and large, findings indicated that teachers perceive students as possessing a rather generalized motivation for literacy that is either relatively high or relatively low. The follow-up study described in this research report included the further development of a teacher questionnaire that mostly reflected Deci's (1975; 1980) conception of motivation and the self-determining learner.

Research Questions

Before we can help teachers bolster students' self-determination and competence, we need more information about how teachers actually perceive students' literacy motivations. The Sweet and Guthrie (1994) study, together with the current study, examined teachers' perceptions of students' motivation to read in school-based settings. The theoretical framework for these studies was based in large part on Deci's (1997, 1980) self-determination perspective, but also included constructs related specifically to reading. The objectives of these studies were fourfold: (1) to explore teachers' perceptions of students' literacy motivations; (2) to develop a questionnaire that captured teachers' perceptions of students' motivations to read; (3) to study the relationship between teachers' perceptions of students' motivations and literacy achievement; and (4) to explore whether teachers' perceptions of students' literacy motivations were differentiated. Specific research questions included the following:

QUESTION 1: To what extent do teachers perceive students' motivation to be internal to the learner and/or responsive to context?

QUESTION 2: How are teachers' perceptions of students' motivation related to literacy achievement?

QUESTION 3: Do teachers' perceptions of students' literacy motivations vary across grade levels and/or within grade level?

QUESTION 4: How do teachers perceive students' motivation in videotaped vignettes of classroom interaction?

Method

Subjects

Teachers. Sixty-eight teachers participated in the quantitative phase of the study, repre-

senting Grades 3, 4, 5, and 6. Each was actively teaching at 1 of the 14 randomly selected elementary public schools, and as a group, represented the characteristics of the county in which they were situated. Participating teachers were largely identified by the principal of each school. The numbers of teachers at each grade level were as follows: 21 third-grade teachers, 17 fourth-grade teachers, 14 fifth-grade teachers, and 16 sixth-grade teachers. From the initial 14 school sample, 1 school was randomly chosen to participate in a more in-depth and qualitative process of investigation. A total of 6 teachers representing four grades permitted videotaping of a student in their classroom and were subsequently interviewed after viewing the videotape. The numbers of teachers interviewed were as follows: 2 third-grade teachers, 2 fourth-grade teachers, 1 fifth-grade teacher, and 1 sixth-grade teacher.

Schools were in an urban Maryland school district, located within the larger metropolitan Washington, DC, area. The school population is low- to middle-income and ethnically diverse. Approximately one-half of the students are African-American, one-third Caucasian, and the remainder Hispanic and Asian. The median level of achievement in this school district, according to national norms as measured by the California Test of Basic Skills, is approximately at the 30th percentile.

Students. Three hundred seventy-four students participated in the quantitative phase of the study. The student population within each school was ethnically diverse, with elementary students from low- to middle income families. Student demographic data included grade, general achievement level, and report-card grade in reading. As a whole, the number of students who participated in the study represented the range of achievement levels (high, middle, and low) in approximately equal numbers. The numbers of students reported on at each grade level were as follows: 112 third-grade students, 92 fourth-grade students, 87 fifth-grade students, and 83 sixth-grade students. Each teacher completed questionnaires regarding students in his/her classroom.

Six students participated in the qualitative phase of this study. In each teacher's classroom, one student was chosen as a subject for the teacher interview. Teachers chose 1 of two "average" achievement students for whom a questionnaire had been completed. In the sixth-grade classroom, the teacher declined to be videotaped but participated in a restricted set of interview questions

Questionnaire Development

Preliminary study. Findings from a previous study (Sweet & Guthrie, 1994) were used to inform study this study on an expanded scale (teacher $N=68$; student $N=374$). In the earlier study, three focus groups of third- and fifth-grade teachers were convened to ascertain what teachers *see* when students are motivated to read. Specifically, teachers were asked to reflect on students whom they considered to be motivated readers and describe characteristic behaviors. The information gathered from teachers in focus groups was used to develop a multi-item questionnaire. The questionnaire was field-tested with 8 teachers and 48 students and then data were factor-analyzed. One strong factor emerged which was indicative of an

internal orientation. This factor is identified in study two as *Individual*. Factor analyses resulted in the development of a revised questionnaire with item clusters that fell into five categories: (1) *Involvement*; (2) *Strategies for Reading*; (3) *Social*; (4) *Written Expression*; and (5) *Persistence*. The dimensions of the first motivation category, Involvement, are understanding and concentration (Reed & Schallert, 1993). For example, *is a voracious reader* and *sharply focused while reading*, were items that conveyed this construct. The second motivation category reflected the use of strategies for reading. Sample items for this construct were: *finds out how to understand difficult text by rereading, asking questions, etc.*; and *knows how to choose a book he/she would want to read*. The third category, Social, represented children's motivated reading behaviors that are social in nature. For example, *talks about his/her feelings related to a book or story* and *discussion with teacher and peers is complex —including motivations, plot, and personal response* conveyed this construct. The fourth category represented students' written expression. Sample items included: *wants to write about what he/she reads*; and *writes personal responses in journal regularly and often*. Finally, the fifth motivation category conveyed continuous concentration on a task, especially when the task challenges the skill or understanding of the learner (Nicholls, 1989). For example, *finds out how to understand difficult text by rereading, asking questions, etc.* was a sample item that conveyed this construct.

In addition, student achievement data were correlated with data on student motivation. An examination of the Pearson product-moment correlation coefficients for grades 3 and 5 combined yielded positive and significant correlations for students' reading motivation and all academic subjects. Teacher perceptions of motivation correlated with report-card grades in reading (.50), language (.41), spelling (.44), social studies (.51), science (.45), and math (.40), all of which were significant at $p < .01$. Data analyses on students' achievement showed those students perceived by teachers to be highly motivated to read also had high report-card grades in all school subjects; conversely, students perceived by teachers to be unmotivated to read had low report-card grades in all school subjects. Subsequent analyses (chi square; *t*-tests) were performed to develop a profile of motivated readers. Results indicated that students perceived by teachers to be highly motivated were, compared to less motivated students, younger and received higher report-card grades across all school subjects; they had especially high grades in reading and social studies. Students whom teachers perceived as more highly motivated to read were the same students they graded more highly on report cards. No gender differences in students' perceived level of reading motivation nor students' level of achievement were found. A detailed description of this study is contained in NRRC Reading Research Report No. 29 titled *Teacher Perceptions of Students' Motivation to Read* (Sweet & Guthrie, 1994).

Present study. Based on the preliminary study, a questionnaire containing 31 questions was developed. These questions addressed six motivational constructs, including items that represented context variables. Questions within each construct included a mix of newly created

items and items which performed well as indicators on the Year-1 survey of teacher perceptions. For example, to represent the Individual construct, items such as the following were included: *is enthusiastic about reading*; and *is a voracious reader*. Topic interest items included: *has definite preferences for favorite topics or authors*; and *spends a long time reading about topics s/he likes*. Social items included: *does better on reading and writing activities when working with peers*; and *talks about his/her feelings related to a book or story*. Autonomy items included: *prefers finding his/her own books*; and *knows how to choose a book s/he would want to read*. Activity items include: *follows up reading by getting involved in a related activity*: and *does better on reading and writing when they are related to activities he/she has participated in*. And, finally, the Writing construct included items such as *writes personal responses in journal regularly and often*, and *wants to write about what s/he reads*. The six motivation constructs are represented as categories with accompanying questions and are located in Table 1.

Each motivational construct being addressed was created from 4 items (questions) with the exception of Individual. To create this more general category describing student characteristics, 11 questions were included on the questionnaire. In the final analyses, 5 of these questions performed in a way that definitively captured the global student characteristics as intended.

Individual—Items 1, 5, 9, 18, and 21 were written to form a group of behaviors that were indicative of individual literacy attributes. This construct refers to teachers having attributed students' motivation to inherent qualities or students' intrinsic orientation (e.g., a student is motivated because s/he gets engrossed in reading). Individual, as a construct in this context, is a cornerstone of motivation theory, particularly as it relates to the self-determining learner (Deci, 1975; Deci & Ryan, 1985). Items that describe individual literacy behaviors are: (1) Easily distracted while reading; (2) Is a voracious reader; (3) Hides in books; (4) Easily discouraged when s/he encounters difficult text; and (5) Is enthusiastic about reading.

Autonomy—Items 4, 12, 22, and 28 were written to form a group of behaviors that were indicative of autonomy. Autonomy referred to teachers' perceptions that a student was motivated by choice. This construct of freedom described a key psychological component that is central to Deci's (1975) self-determination theory. The opportunity to make choices has been found to enhance intrinsic motivation to read (Gambrell & Morrow, 1996; Gambrell et al., Palmer, & Coding, 1996). Items that suggested autonomy are: (1) Content to read books that are pre-selected by the teacher; (2) Prefers finding his/her own books to read; (3) Knows how to choose a book s/he would want to read; and (4) Does better work when allowed to choose books that interest him/her.

Activity-Based—Items 3, 7, 30, and 31 were written to form a group of behaviors that were indicative of activity-based connections to literacy. This construct describes activity-based literacy engagement which referred to the observation that students read and write about events in which they have actively participated (e.g., student reads and writes about a theme

Table 1

Conceptual Item Clusters: Teacher Questionnaire on Student Motivation to Read (3rd Ed.)

CONSTRUCT	ITEM CLUSTERS
Activity	1. Enjoys reading about a favorite activity (3) 2. Follows up reading by getting involved in a related activity (7) 3. Does better on reading and writing when they are related to activities s/he has participated in (30) 4. Reads frequently about a specialized recreational or extracurricular interest (31)
Autonomy	1. Content to read books that are pre-selected by the teacher (4) R 2. Prefers finding his/her own books to read (12) 3. Knows how to choose a book s/he would want to read (22) 4. Does better work when allowed to choose books that interest him/her (28)
Social	1. Talks about his/her feelings related to a book or story (8) 2. Avoids participating in reading group activities (16) R 3. Discussion with teacher and peers is complex—including motivations, plot, and personal response (23) 4. Does better on reading and writing activities when working with peers (27)
Topic	1. Has definite preferences for favorite topics or authors (10) 2. Has no specialized reading interest (15) R 3. Spends a long time reading aboout topics s/he likes (19) 4. Chooses to read about favorite subjects (26)
Individual	1. Easily distracted while reading (1) R 2. Is a voracious reader (5) 3. Hides in books (9) 4. Easily discouraged when s/he encounters difficult text (18) R 5. Is enthusiastic about reading (21)
Writing	1. Writes personal responses in journal regularly and often (6) 2. Wants to write about what s/he reads (14) 3. Writes incompletely or superficially in journal (29) R

(#) = Questionnaire item number
R = Reverse Coded

related to a field trip). Items that describe activity-based literacy behaviors are: (1) Enjoys reading about a favorite activity; (2) Follows up reading by getting involved in a related activity; (3) Does better on reading and writing when they are related to activities he/she has

participated in; and (4) Reads frequently about a specialized recreational or extracurricular interest.

Topic—Items 10, 15, 19, and 26 were written to form a group of behaviors that were indicative of topic. This construct described an attribution to subject matter or genre as a source of reading motivation (e.g., student is motivated when she reads about a topic, such as dinosaurs, or a genre such as mysteries, that s/he is interested in). Questionnaire items that describe topical interest are: (1) Has definite preferences for favorite topics or authors; (2) Has no specialized reading interest; (3) Spends a long time reading about topics he/she likes; and (4) Chooses to read about favorite subjects.

Social—Items 8, 16, 23, and 27 were written to form a group of behaviors that were indicative of social literacy behaviors. This construct referred to teachers' perceptions that a student read to share or exchange with peers or family. Social, as a construct used in this context, is reflective of the relatedness construct (Deci & Ryan, 1992; Ryan et al., 1992). Relatedness is akin to the notion that a sense of belonging in the classroom is derived from social relationships that are based on trust, caring, and mutual concern for one another's social and emotional well-being. A sense of relatedness can be a critical motivator of engagement in academic pursuits as well as of socially appropriate behavior in the classroom (Baumeister & Leary, 1995; Connell & Wellborn, 1991). Moreover, it has been shown that students in classrooms where teachers promote this sense of relatedness are motivated to engage in academic activities and positive social behaviors (Noddings, 1992; Wentzel, 1995). Questionnaire items that describe social literacy behaviors are: (1) Talks about his/her feelings related to a book or story; (2) Avoids participating in reading group activities; (3) Discussion with teacher and peers is complex—including motivations, plot, and personal response; and (4) Does better on reading and writing activities when working with peers.

Writing—Items 6, 14, and 29 were written to form a group of behaviors that were indicative of writing literacy. This construct referred to teachers' perceptions that some students like to write about books or texts. Writing, as a construct in this context, was viewed as an integral component of literacy competence. The research literature is replete with findings that children's reading and writing abilities develop together (e.g., Tierney & Shanahan, 1991). As such, writing was viewed as one expression of motivated literacy engagement. Items that describe writing literacy behaviors are: (1) Writes personal responses in journal regularly and often; (2) Wants to write about what s/he reads; and (3) Writes incompletely or superficially in journal.

Response format. Student motivation was gauged by asking teachers to rate the frequency of each child's engagement in reading related activities. Items were constructed to represent the six motivational constructs discussed in the previous section: activity-based engagement, autonomy, interest in a topic, social engagement in literacy events, internal or intrinsic qualities of the student, and writing literacy. Each item was answered using a 4-point answer format (Rarely, Seldom, Sometimes, Often). Negative items were reverse coded so that scale scores for each item ranged from

1 to 4, with 4 indicating teachers' observation of frequent behavior from the individual student. Summary scores were calculated by averaging the items within a category. Subsequent analyses were conducted using these motivation summary scores for each student.

Students' reading achievement was addressed by asking teachers to report the most recent reading report-card grade for each student. Grades were categorized into a 4-point scale by grouping students with scores *D* and *F*. This scale was coded to parallel student motivation frequency scale with 1 representing the lowest grade group, and 4 representing the highest achievement. A general judgment of teachers' perceptions of individual students' achievement was also polled as a general heuristic to help teachers select varying levels of student achievement within the six surveys completed.

Questionnaire Administration

During the first quarter of 1995, teachers were asked to complete a teacher questionnaire (see Appendix A) eliciting their perceptions of students' reading motivations. Each teacher was asked to complete a questionnaire for 2 students who demonstrated "high" overall achievement, 2 students who demonstrated "average" overall achievement, and 2 students who demonstrated "low" overall achievement. Teachers provided reading report-card grades for each of these students as part of completing the questionnaire.

Qualitative Investigation

Interview development and analysis structure. Teacher interview questions were developed to examine teachers' perceptions of students' literacy motivation from an alternative perspective (see Appendix B). As the interview referenced a videotape of the student in a regular instructional setting, each question followed the format of asking first about the specific task, and then about the student's behavior in general. The interview and first/last few questions were scripted to aid the interviewer in establishing rapport and allow the teacher to contribute more global descriptions of student characteristics. Information from these questions was not included in subsequent analysis.

The interview was piloted with a third-grade teacher not participating in the project and resulted in the following modification: Although some of the specific vocabulary referencing the construct is included in the videotape questions, some categories (such as Activity and Autonomy) were posed to the teacher in more meaningful, direct, and concrete terms. In this way, questions became more specific in polling teacher perceptions of the motivation constructs.

For the qualitative phase of the study, data collection involved videotaping one of the "average" reading achievement students during a regular classroom reading lesson for 30 min. The video camera was placed in the classroom and a cordless microphone was placed near the targeted student. Participating students were likely unaware that subsequent videotaping focused on their activities alone because the camera aimed at groups of students covering a wide angle of the classroom. Later in the day, the videotape was forwarded 20 min into the session in order to provide a representative sample of classroom interaction. The purpose was to find students' engaging in typical liter-

acy interactions, without favoring one type of activity over another. In the event that no interactions were occurring where the videotape stopped, it was forwarded a bit farther and the teacher was asked to observe the student's behavior for 7 min. Teachers were then asked interview questions which paralleled motivational constructs examined via the initial questionnaire. Teachers were asked to discuss how the student behaved during the videotaped segment as well as to discuss the student's reading behaviors in general. For example, in order to gauge a teacher's perceptions of whether a student was motivated by topical interest, the interviewer asked: "Do you think that Tracy's level of interest in this topic influenced her performance on this task? How? Are there other topics that Tracy responds to differently than what you see here? How?" The videotaped segments were used largely as a prompt to remind teachers of how the student acted during instruction earlier in the day.

Interviews were conducted in a general office at the school, during teachers' scheduled free time. Teacher responses were audiotaped for subsequent transcription. One investigator videotaped and interviewed all 6 teachers. This individual was experienced in interviewing techniques, having conducted teacher interviews in related research studies. The sixth-grade teacher who declined to participate in classroom videotaping was not asked those questions which referenced the specific videotaped task. Otherwise, the format and structure of her interview was identical to the others'.

The 6 teacher transcripts, each containing a report on the behaviors of one *average* student (6 students, total) was subsequently coded in parallel to the original questionnaire data, representing the 6 motivation categories described earlier. A scale of responses about student behaviors was employed, ranging from *Absolutely No* to *Absolutely Yes*. Examples of each score from the actual teacher transcripts are included in Appendix C. The rating scale and parameters were agreed upon by two independent coders who subsequently coded each questionnaire. Having coded patterns and themes, with particular emphasis on consistency and thoroughness of response, coders then derived a holistic score representing each category. After each coder had completed independent analysis for each interview, the coders collaborated to discuss their interpretations of the data and decide upon final holistic scores for the interviews. We determined that the 30 interview units that were coded constituted a number insufficient enough to compute an interrater agreement.

Results

QUESTION 1: To what extent do teachers perceive students' motivation to be internal to the learner and/or responsive to context?

To address this question, we examined teachers' perceptions of these motivation types —*individual, activity, autonomy, social, topic,* and *writing*. This analysis was conducted across four grade levels, 3 to 6, and four report grade achievement levels, "A" to "D/F." We performed a 6 (motivations) x 4 (grade levels) multivariate analysis of variance (MANOVA), with repeated measures on the motivation factors. One result was that a main effect

Table 2
Mean Motivation Categories for Grades 3–6 Motivation

	Total	Grade 3 (n=114)	Grade 4 (n=92)	Grade 5 (n=87)	Grade 6 (n=84)
Activity					
Mean	2.91	2.91	2.89	2.87	2.98
SD	.71	.72	.71	.64	.76
Autonomy					
Mean	2.91	2.91	2.91	2.87	2.94
SD	.47	.55	.41	.46	.42
Social					
Mean	2.84	2.83	2.86	2.86	2.82
SD	.70	.69	.75	.65	.68
Topic					
Mean	2.83	2.75	2.82	2.90	2.90
SD	.85	.87	.88	.75	.89
Individual					
Mean	2.73	2.71	2.75	2.69	2.78
SD	.94	.95	.89	.92	1.03
Writing					
Mean	2.56	2.54	2.40	2.79	2.52
SD	.97	.93	1.02	.91	.97

Note: Means in this table are not differentiated by Report-Card Grades

was observed for motivations, $F(5, 1625) = 34.95, p < .0001$. The six motivation categories were ranked across grades 3 to 6. An inspection of the means in Table 2 revealed that, by and large, teachers perceived students' motivations to be mostly context sensitive. As is evident in Table 2, the *activity, autonomy, social,* and *topic* motivation categories, respectively, have higher means than the *individual* category. Post hoc contrasts (Tukey procedure) showed that teachers perceived the *individual* motivation to be significantly lower than *social* ($p < .05$), *topic* ($p < .05$), *autonomy* ($p < .05$), or *activity* ($p < .05$). Therefore, only occasionally do teachers perceive students' motivation as an internal characteristic, but rather as specific to the context surrounding the literacy event wherein the elements of activity-based, independence or autonomy, social interaction, and topical interest affect students' motivation situationally. Only the *writing* motivation category was ranked lower than the *individual* category ($p < .05$).

Table 3
Means and Standard Deviations for Top/Bottom 20% Motivation Categories

Lowest 20% (n = 77)			Highest 20% (n = 82)		
Motivation	*M*	*SD*	Motivation	*M*	*SD*
Autonomy	2.40	.54	Individual	3.74[a]	.24
Activity	1.90[a]	.50	Topic	3.71[ab]	.32
Social	1.89[a]	.48	Writing	3.62[bc]	.37
Topic	1.62	.55	Activity	3.59[c]	.34
Individual	1.35[b]	.39	Social	3.48	.35
Writing	1.35[b]	.43	Autonomy	3.24	.27

Note: Means in this table were not differentiated by Grade Level or Report-Card Grade
[a,b,c] Means with common superscripts are not significantly different at $p < .05$.

We also addressed the first question, number 1, with an extreme groups analysis (Pedhazur & Schmelkin, 1991). This analysis was directed to the issue of whether teachers perceived students who were highly motivated, in general, to possess a different motivational orientation than students who were less highly motivated, in general. To conduct this analysis, students with a total motivation score in the top 20% were compared to students with a total motivation score in the bottom 20%. A 2 (groups) x 6 (motivations) MANOVA showed a significant effect for group, $F(1, 157) = 2547.10$, $p < .0001$. A significant effect for motivation was observed, $F(5, 785) = 17.98$, $p < .0001$. In addition, a significant interaction of motivation type and group appeared, $F(5, 785) = 94.37$, $p < .0001$.

As depicted in Table 3, all of the mean scores for motivation categories for the lowest 20% of students' motivation strength ratings fell well below the median, whereas all of the mean scores for motivation categories for the highest 20% of students' motivation strength ratings fell well above the median. From this inspection, it was concluded that teachers perceived all six motivation category behaviors to be exhibited much more strongly in a positive direction for those students with the highest scores.

The relative importance of each motivation type within the two groups varied markedly. For example, as depicted in Table 3, the strongest reading motivations for those students perceived as relatively unmotivated to read was the element of *autonomy*; and conversely, *autonomy* was the weakest motivation category for students perceived as more highly motivated to engage in literacy. The strongest reading motivation for those students perceived as more

Table 4
Intercorrelations Among Motivation Categories, Grades 3-6 Combined

	Students (n = 377)					
Motivation	Activity	Autonomy	Social	Topic	Individual	Writing
Activity	1.00	.59*	.72*	.80*	.77*	.68*
Autonomy		1.00	.54*	.64*	.52*	.42*
Social			1.00	.69*	.74*	.68*
Topic				1.00	.81*	.69*
Individual					1.00	.81*
Writing						1.00

* $p < .001$, 2-tailed.

highly motivated was the *individual* category, representing student qualities that were intrinsic or that emanated from within. Conversely, the *individual* category was one of the least strong for students who were perceived to be less motivated. Likewise, the *activity*-related category was relatively strong in the lesser-motivated student profile, whereas this category was relatively weaker in the higher-motivated student profile. Similarly, while *topic* was one of the strongest categories in the higher-motivated student profile, it was relatively weaker in the lesser-motivated student profile.

QUESTION 2: How are teachers' perceptions of students' motivation related to literacy achievement?

The 6 (motivations) x 4 (grade levels) x 3 (achievement levels) MANOVA used to address the first question was also used to address Question 2. A main effect for achievement level was observed, $F(3,325) = 166.35$, $p < .0001$. Post hoc comparisons showed that the "A" students were perceived to be significantly more motivated than the "B" students ($p < .05$). "B" students were higher than "C" students ($p < .05$), and "C" students were higher than "D/F" students ($p < .05$). There was no interaction of achievement by grade level.

To examine the second question for each motivation, data from the teacher perceptions *Revised Questionnaire* (3rd ed.) were correlated with student achievement for each motivation separately. An examination of the Pearson correlation coefficients for grades 3 to 6 combined yielded positive and significant correlations for students' reading motivation and report-card grades in reading. These results are found in Table 4. Teacher perceptions of literacy motivations intercorrelated with reportcard grades in reading on each of the six motivation categories: *activity* (.63), *autonomy* (.45), topic (.68), *social* (.65), *individual* (.79), and *writing* (.73), all of which were significant at $p < .01$. This pattern of significance prevailed for literacy motivations at each grade, 3 through 6. All were significant at the $p < .01$ level, as well, indicating that there was a

relationship between each of the six motivation categories and achievement as measured by report-card grades.

In this MANOVA, a significant interaction appeared for achievement level and motivation for achievement type, $F(15, 1625) = 25.68$, $p < .0001$. As shown in Table 5, teachers perceived students at different achievement levels to be characterized by different motivations. Post hoc tests revealed that teachers perceived the "A" students as characterized by *individual* and *topic* motivations which were both significantly higher than *activity* ($p < .05$) or *autonomy* ($p < .05$) as influences on motivation. Post hoc tests also showed that "B," "C," and "D/F" students were perceived to be motivated by *activity* and *autonomy* factors more likely than *individual* ($p < .05$) or *topic* ($p < .05$) factors.

It should be noted that a statistically significant 3-way interaction appeared, which was extremely weak, $F(45, 1625) = 1.39$, $p < .05$. This showed that the pattern described in the previous paragraph was slightly stronger for the higher grades than the lower grades. As there were no reversals of pattern, we believe our prior interpretation is valid.

It appeared that teachers perceived distinct profiles for students whose literacy competence was well developed and students whose level of literacy development was average, as indicated by reading report card grades of "A" and "C." On the one hand, teachers perceived highly achieving "A" students to be more highly motivated by their individual or internal qualities and the topic of subject matter or genre related to a literacy event. In addition, they perceived that these students were less motivated by the activity surrounding a literacy event, such as a puppet show, as well as the autonomy they were able to exercise within the literacy event. On the other hand, teachers perceived less highly achieving "C" students to be more highly motivated by the autonomy or choices they were able to make within the literacy event, as well as by an activity-based happening, such as a field trip, used as a bridge to literacy engagement. In addition, they perceived that these students were less motivated by the topic of the literacy event, as well as by any individual or internal qualities that students brought with them to the literacy enterprise. We refer you to Figure 1, a bar graph in which these student profiles are depicted. In sum, teachers saw "A" students as self-determining learners who were motivated from within. These students exhibited internal qualities that seemed to drive them toward literacy engagement, especially related to particular topics of interest. Teachers characterized "C" students as more propelled toward literacy engagement by opportunities for choice and the concreteness of an activity-based connection to literacy, which in turn sparked literacy engagement.

Interestingly, teachers did not appear to distinguish motivated literacy activity that may have been ignited by social interaction among students. At best, teachers appeared to be neutral on this element. This finding was apparent across student profiles constructed via teachers' perceptions. It seemed that teachers had not as yet internalized how social interaction within literacy instruction can move students toward what Deci (1975) calls self-determination. This observation became more apparent

Table 5
MANOVA for Motivation Categories by Report Card Grade (A–D)

A (n=102, 101df)			B (n=115, 114df)			C (n=87, 86df)			D (n=37, 36df)		
Motivation	Mean	*SD*	Motivation	Mean	*SD*	Motivation	Mean	*SD*	Motivation	Mean	*SD*
Individual	3.66	(.32)	Activity	3.05[a]	(.51)	Autonomy	2.74	(.48)	Autonomy	2.47	(.67)
Writing	3.52[b]	(.49)	Autonomy	3.00[a]	(.37)	Activity	2.61[b]	(.62)	Activity	1.96[b]	(.67)
Topic	3.52[b]	(.46)	Topic	2.99[ac]	(.62)	Social	2.55[bc]	(.63)	Social	1.96[b]	(.52)
Social	3.40[d]	(.41)	Social	2.91[c]	(.51)	Topic	2.41[c]	(.72)	Topic	1.68	(.75)
Activity	3.40[d]	(.47)	Individual	2.89[c]	(.67)	Individual	2.10	(.69)	Writing	1.40[e]	(.50)
Autonomy	3.14	(.33)	Writing	2.63	(.78)	Writing	1.95	(.72)	Individual	1.38[e]	(.64)

Note: Numbers with common superscript do *not* differ at $p < .05$.

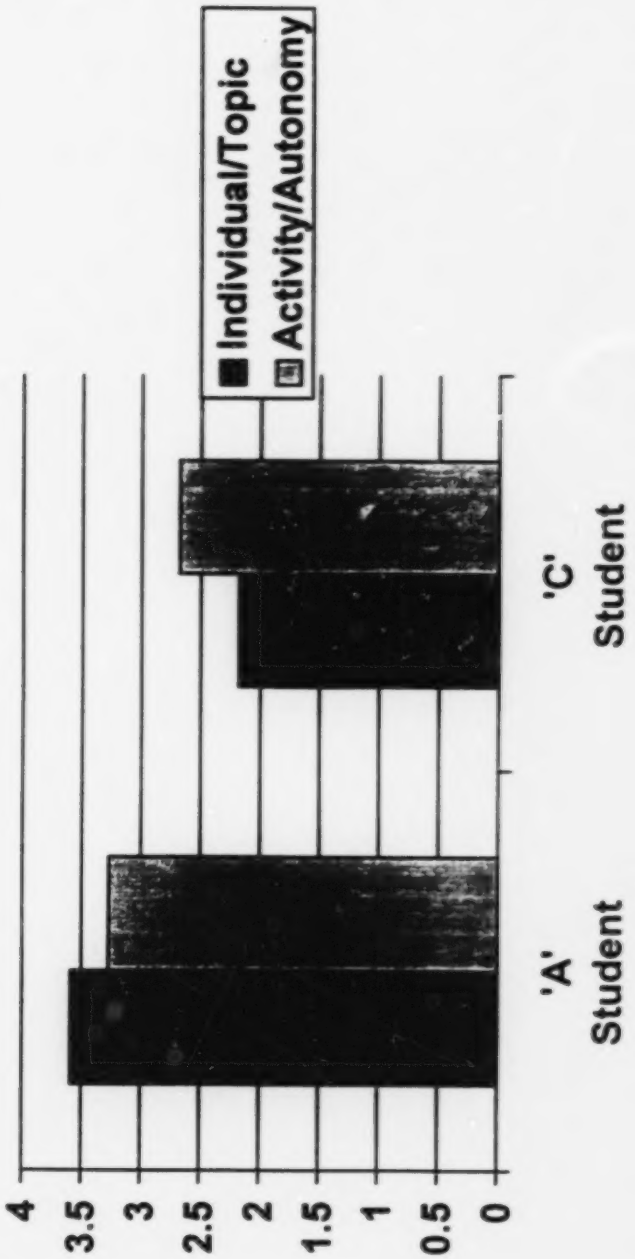

Figure 1. Student motivation profiles.

when data from the qualitative phase of the study were analyzed.

QUESTION 3: Do teachers' perceptions of students' literacy motivations vary across grade levels?

In the 6 (motivations) x 4 (grade levels) x 4 (achievement levels) MANOVA used to address the third question, number 3, the main effect for grade level was not significant. However, the interaction of grade and motivation was significant, $F(15, 1625) = 4.29, p < .0001$. In accordance with the third research question, asking whether teachers' perceptions of students' literacy motivations vary across grade levels, and as an initial step, mean motivation strength ratings for grades 3 to 6 were examined. These data are depicted in Table 2. It appeared that there was very little difference in how teachers perceived the six motivations in students across grade levels. However, *topic* as a motivation factor increased in strength across the grades. Post hoc comparisons showed that *topic* was marginally lower than *social* motivation in grades 3 and 4, but *topic* was marginally higher than *social* in grades 5 and 6. It should be noted that *activity* and *autonomy* were typically higher across grade levels while *individual* and *writing* were lower across grade levels.

QUESTION 4: How do teachers perceive students' motivation in videotaped vignettes of classroom interaction?

Qualitative Analysis

Teacher interview questions were developed to assess the constructs of topical interest/content, social, choice or autonomy, and activity connections to literacy. A sample interview question for each of these four constructs, as posed to a teacher interviewee, is presented next, along with that particular teacher's response in order to provide the reader with the gist of this protocol. It is important to emphasize that the videotaped segments of classroom instruction that formed the basis for teacher interviews were used largely as a prompt to remind teachers of how the student acted during instruction earlier in the day. In effect, some of the interview questions were designed to transcended the context of the videotaped segments.

An interview question that centered around *topical interest*, when posed to Mrs. Funkhouser, was, "Do different topics influence Eddie's performance on a task?" Her reply was, "If there is something he is really interested in, he has a lot of information to give because he does a lot of reading outside of school. You can always tell by the expression on his face if he is very interested in certain things. And just his general appearance, ... he just really wants to take part and really volunteers a lot in class if it is an interesting subject to him." An interview question pertaining to the *social* construct, when presented to Mrs. Riggs, was, "Does Kenny usually perform differently when he can work alone as opposed to working with the group?" Her answer was, "I would say that it is about the same. He is a good independent worker as well as a group participant. So I really don't notice a big difference." One of the interview questions designed to assess *autonomy*, when presented to Mrs. Perry, was, "Is Melissa's level of performance affected

when she has choices within the activity?" Mrs. Perry's reply was, "I think so, ... when there aren't so many boundaries.... I think when it is narrowed it is harder ... to probably focus in than when it is kinda open and when there are no right or wrong answers and you feel like you're a little free spirit and whatever you say is important. I think it affects not only her, I think it affects all of them." "Their performance," asked the interviewer? The teacher nodded yes and replied, "um hum" (*affirmative*).

Finally, a sample interview question structured to assess the *activity* connection to reading construct was as follows: The interviewer asked, "Do you think that Megan was personally interested in the activity during this part of the tape?" Mrs. Pike replied, "Yes." Next, the interviewer asked, "Did that make a difference in her performance during this task?" The teacher answered, "Yes, because she would not have done anything, even though she had not done as much as she could have, she would not have done anything had she not been interested. She would have just observed." In following up, the interviewer continued, "Do you see any differences in Megan's performance when the activity involves a favorite subject or hobby of hers?" Mrs. Pike answered, "Yes, she [offers] ... often longer responses, she volunteers more often in the group setting. She likes to share...bring her prior experiences and her background knowledge into the activity."

Teachers' perceptions of students' literacy motivations on the questionnaire and on the personal interview were generally consistent. Moreover, the patterns of differentiation between motivation categories were, to a greater or lesser extent, revealed more prominently on the teacher interviews. This was especially true for activity-related reading motivation and topical interest. The motivation category on teachers' perceptions of social behaviors related to literacy activities was the one exception where teachers' perceptions were not differentiated more distinctly on the personal interviews. In fact, teachers' differentiated on this motivation type to a lesser extent in the teacher interviews than on the teacher questionnaire. This may be partially attributed to the observation that teachers frequently referenced students' individual characteristics as a justification or prediction of their behavior, regardless of a specific task condition such as students' working in a group with peers.

Individual teachers were questioned orally after having viewed a videotaped segment of classroom activity which focused on a student they had rated previously on the questionnaire. Questions were structured around the four motivation categories that were most amenable to direct query: topic, social, autonomy, and activity. By and large, teachers were consistent in readily perceiving students' literacy motivation with regard to their interest in *topic*. When asked by the interviewer whether Megan's interest in the topic portrayed in the videotaped segment affected her performance, the teacher answered, "yes, ... she puts forth a lot more effort if she is interested in the task. And she is interested in this because she liked the story. We had a beginning section of Mr. Popper's Penguins a couple of weeks ago and worked with that. And this is a totally different section somewhere in the middle of the book. And she was so interested in that story that she actually

went to the library and checked it out, and she was reading it on her own."

When teachers were questioned orally, they generally made a greater distinction in how they viewed students' *activity*-related behaviors, attributing more weight to them. For example, in response to the question, "Do you see any difference in Robert's performance when the activity involves a favorite subject or hobby or interest of his?", Ms. Jackson stated: "Yes, I would say again the performance level goes up with the interest level ... he would be more focused, he would raise his hand more, he would probably go into a deeper thought process maybe reach out for his own personal experiences if it is something he is interested in." Another teacher, when asked the same question, commented, "Yes, because she would not have done anything, even though she had not done as much as she could have, she would not have done anything had she not been interested, she would have just observed. She offers longer responses, she volunteers more ... she likes to share ... bring her prior experiences and her background knowledge into the activity." In contrast, teachers made only a slight distinction in how they viewed students' autonomy, in favor of attributing a bit more weight to it.

In these interviews, preceded by videotaping students during literacy instruction and subsequently interviewing teachers about their observations, teachers generally made a notable distinction in how they viewed students' social behaviors, attributing less weight to them. When questioned about students' social behaviors, most teachers indicated that the student being observed would have performed about equally as well, or in one case better, had s/he worked alone rather than in a group. "She probably would have done equally as well as if she had done the assignment independently...."; Ms. Pike's was a typical response when asked by the interviewer whether Megan's performance changed by working in a group during the taped literacy activity. In sum, teachers' differentiated to a lesser extent on the social motivation category in the teacher interviews than on the teacher questionnaire. Had teachers reacted strongly to the social motivation category, we would have expected to see an enriched pattern of differentiation on the teacher interviews. Instead, when questioned about students' social interactions revolving around a literacy event, most teachers indicated that the student being observed would have performed about equally as well, or in one case better, had s/he worked alone rather than in a group. When Mrs. Paulino was questioned about whether Megan's performance changed by working in a group during the literacy activity that was videotaped, her reply was that "She probably would have done equally as well as if she had done the assignment independently...." Her response was a typical one. This finding appears to support the notion that teachers did not discern the motivational power of social interaction as an element that moves students toward self-determination in their learning. It was observed that while the social motivation category emerged as relatively low in influence in the quantitative data analyses, it declined in strength in the teacher interviews. This reduced attribution to the *social* element was in contrast to the general pattern of increased attribution to the other

three motivation categories (*activity, autonomy, topic*) that were assessed via teacher interviews.

Trends in teacher perceptions. An examination of the interview data revealed a consistent trend. This trend pointed toward the concreteness of teachers' perceptions, based on their observations about a student's intrinsic orientation, or what we have termed *individual*. When questioned about *activity*-related, *autonomy, topic,* and *social* motivation behaviors, two-thirds of the teachers interviewed included reference to students' inherent characteristics. For example, Ms. Hendrix had formed a general impression of David as a student, having taught him in the fourth grade for a full school year. Her assessment was that "he's really, for the most part,... just kinda that middle-of-the-road person.... He is an overall good student, when he is on track with work habits, pretty good ... but he won't push himself to go that extra mile. He'll do what he knows [he] needs to do and is generally on track ... but he doesn't go that extra mile." When questioned about David's performance during the activity at hand, Ms. Hendrix acknowledged that David's participation in the activity would have been heightened if he'd had some choices within the activity and was personally interested in the topic. She described an English activity that David was involved in while working in "teams to describe a weird skate board that a person might use to survive in the North Pole." While working on a project like this that he is in interested in, "he is very engaged in discussions and ... planning and things." Yet, Ms. Hendrix reiterated that while David's "level of participation is a little bit more when it is something on the fun side ... [because] he probably feels it is something a little bit more relevant to him," nevertheless, "he does what he has to do and that's where it stops ... that's about as far as it's going to go." Ms. Hendrix recognized that David's level of participation in literacy related activities was noticeably improved when he was interested in the topic. As his teacher, she clearly perceived that David's level of motivation was influenced by context, even though she formed a more general impression of his literacy motivation.

It is important to note that our coding rubric did not allow raters to rate out of category. In other words, even though teachers' responses to specific questions contained material that addressed a motivation category different from the one addressed by the question, raters did not assign a value to it. Teachers' descriptions frequently included observations about students' disposition (e.g., quiet, social, a leader, etc.). For instance, Ms. Grady described Sean as a student who would "prefer doing any cooperative learning." This description was not offered under an interview question dealing with social motivation behavior, but rather was contributed by Ms. Grady in her response to an interview question dealing with topical interest. Given coding rubric constraints, this information was not counted.

Although our focus of inquiry was directed primarily at intrinsic motivation for literacy learning, we observed that teachers described a great deal of compliance behavior on the part of students. That is, students behaved in a manner that was expected of them by the teacher and/or parents. In their responses to questions about students' activity-related,

autonomy, topic, and social motivation behaviors, two-thirds of those teachers interviewed volunteered information about these average students which indicated that their motivation was extrinsic to a significant degree. Remember David? As Ms. Hendrix indicated, "He'll do what he knows [he] needs to do." Likewise, Ms. Riggs commented in response to a question about whether Kenny's interest in the topic influenced his performance, that if the story is "particularly interesting to him I think he participates even more." "It depends on the content, but then sometimes he participates on the same level even if it is not quite as interesting to him, but I think it is helpful when he enjoys the story." In another case, when questioned about activity-related motivation on the videotaped segment, Ms. Grady remarked that Sean "was a little more eager than he normally was, but he still would have done it if it wasn't as exciting for him." "Yes, he still would have done it and he would have done it well." Lastly, in responding to a question about activity-related motivation, Ms. Faulkner described Eddie accordingly:

Q: Do you see any difference in Eddie's performance when the activity involves a favorite subject or hobby or interest of his?

A: In his performance?

Q: Performance.

A: As I said before, anything that he is interested in he is going to do a good job. If it has anything to do with nature. He loves nature and he will do a good job. He'll tell you everything there is to know because he watches the Discovery channel all the time on T.V. And he'll tell you everything he knows. He does very well in science. I am the science teacher, but I'll tell you he does very well because he is very interested in science. Where as math, he doesn't do as well. Reading, he'll do find if it interests him. Otherwise he's just average. Yes, he goes from very good to average. There never comes a time when he doesn't do what he is asked to do. But if it is something that he likes, he will give you a 110%. He's a very conscientious student.

In sum, qualitative analyses of teacher interview data in phase 2 of this study provided rich descriptions of teachers' perceptions as they relate to students' literacy motivations. Descriptive analyses of teacher interviews showed that teachers differentiated somewhat on recreational *activity-based* connections to literacy motivations, *topical* interests, and *autonomy*. The extent of this categorical differentiation, however, appeared to be limited. Analyses of teacher interview data revealed a pattern of increased attribution to context factors rather than to students' individual characteristics. Overall analyses supported the general finding that teachers possess a slightly differentiated view of students' literacy motivation.

Discussion

In previous research, we (Sweet & Guthrie, 1994) conducted an exploratory study in which we examined how teachers perceived students' literacy motivations. Results of this first study showed that teachers perceived students as possessing a rather general motivation for

literacy. In the present study, we extended this work by developing a more elaborate questionnaire to assess teacher perceptions of students' motivation. The questionnaire was based in large part on Deci's (1975, 1980) self-determination perspective, but also included constructs related specifically to reading.

The first construct included in the questionnaire was labeled *activity*, which referred to the teacher's observation that students read in areas in which they have been actively participating—for example, a student reads about a theme related to a field trip. The second construct was named *autonomy*, which referred to teachers' perceptions that a student was motivated by choice. The third construct was named *social*, which referred to teachers' perceptions that a student read to share or exchange with peers or family. The fourth construct was labeled *topic*, attributing the source of reading motivation to the subject matter or genre—for example, a student is motivated when s/he reads about a topic such as dinosaurs, or a genre such as mysteries, that s/he is interested in. The fifth construct was named *individual*, meaning that teachers attributed motivation to the internal qualities of the student—for example, a student is motivated because "s/he gets engrossed in reading." Finally, the sixth construct was labeled *writing*, which referred to teachers' perceptions that some students like to write about books or texts. Questionnaire items from these six motivational categories map directly onto teachers' perceptions of students' competence, autonomy, and relatedness. Note that we added *writing* as a discrete category because it is an integral component of literacy competence.

We compared teachers' perceptions of students' motivation at different report-card grade levels. To conduct this comparison, we asked, "Do teachers see students who are highly achieving as motivated by different factors than students who are lower achievers?" Report- card grade in reading was the indicator of achievement, with students receiving an "A" in reading designated as high achievers, and students receiving a "B," "C," or "D" designated as lower achievers. Statistically, we conducted a multivariate analysis of variance with four levels of report-card grade and six categories of motivation as a repeated measure. The finding was positive. Teachers did, in fact, perceive differences in the motivational profiles of higher and lower achievers in the classroom.

The pattern was as follows. Teachers perceived higher achievers as possessing high individual or internal motivation. The students' *individual* motivation exceeded all other motivational factors. These high achievers were also motivated by the topics of the classroom lessons, especially science and literature. The motivational factors of *activity* and *autonomy* were significantly lower than the motivations of *individual* and *topic*. It can be inferred from this finding that teachers considered these students to be less highly influenced by practical activities and support for their choices than they were by their own personal goals and topical interests. In other words, teachers perceived high achievers as intrinsically motivated to learn the content of instruction, and they seemed to have internalized the mastery goals that teachers held for all students.

Teachers perceived the lower achievers differently. The lower achievers were perceived to be responsive to activities and autonomy support in their reading and literacy. Teachers thought these students were more likely to become invested in reading and writing if they engaged in a "hands-on" activity and if they could exercise choices about such matters as what they read, who they worked with and how they wrote. For lower achievers, the *individual* and *topic* motivations were seen as significantly weaker than the *activity* and *autonomy* motivations. It should be noted that the lower achievers were lower than the higher achievers on the absolute level of all the motivational constructs. However, it is the pattern among the constructs that distinguished the motivational characteristics of students at different achievement levels most decisively.

This pattern of teacher perceptions is consistent with Deci's view of the development of self-determination for literacy. From Deci's (1975, 1980) research and considering the teachers' perceptions in this study, we may speculate that higher achievers, who possess excellent strategies and competencies for reading, writing and thinking about informational and literary text, were self-determining. These academically stronger students were perceived by teachers to be intrinsically motivated and to possess internal goals and well-formed subject-matter interests. Less well-accomplished students, those with lower knowledge and use of literacy strategies, were perceived by teachers to be more dependent on external, environmental supports for literacy. Lower achievers needed more choices in reading and writing situations to initiate and sustain their effort and attention. Lower achievers also needed more relevant activities connected to reading and writing, which enabled students to see the usefulness of literacy, to gain confidence in their abilities, and enhance their self-perceived competence.

This pattern is consistent with the perspective that when students become self-determining, they achieve more. By directing their own learning, self-determined students become involved in more literacy pursuits, use appropriate strategies more often, and experience success more frequently. Consequently, self-determined learners acquire a higher competence in literacy than less self-determined learners (Guthrie et. al., 1996). Needless-to-say, achievement in the form of strategic competence in literacy may lend students the confidence to pursue their interests, develop mastery goals, and thereby become increasingly self-determined. We expect that self-determination and achievement are reciprocal, and mutually facilitative.

Findings from previous studies (Morrow, 1992; Skinner & Belmont, 1993; Turner, 1995) showed that social collaboration during instruction appeared to heighten students' motivation. Although these studies lead us to expect a linkage between social behaviors and motivation, we found no such evidence. Teachers did not appear to distinguish motivated literacy activity that may have been ignited by social interaction among students. At best, teachers appeared to be neutral on this element. This finding was apparent across student profiles constructed via teachers' perceptions. It seemed that teachers had not as yet internalized how social interaction within literacy instruc-

tion can move students toward what Deci (1975) calls self-determination.

This observation became more apparent when data from the qualitative phase of the study were analyzed. The qualitative phase involved videotaping students during literacy instruction and interviewing teachers about these students. Teachers differentiated to a lesser extent on the social motivation category in the teacher interviews than on the teacher questionnaire. Had teachers reacted strongly to the social motivation category, we would have expected to see an enriched pattern of differentiation on the teacher interviews. Instead, when questioned about students' social interactions revolving around a literacy event, most teachers indicated that the student being observed would have performed about equally as well, or in one case better, had s/he worked alone rather than in a group. Based on this finding, we concluded that teachers did not discern the motivational power of social interaction as an element that moves students toward self-determination in their learning.

In general, the findings confirm that teachers appear to possess an implicit theory of the association of self-determination and achievement that is remarkably compatible with Deci's perspective. Teachers appear to believe that students who become the agents of their own literacy development grow more rapidly in the knowledge and skills of literacy. To attain these intrinsic motivational goals, students benefit from support for realistic choices. Students also gain from classroom activities in which literacy has a practical return for effort, thus enhancing their self-perceived competence as literacy users.

Implications for Teachers

Teachers are cautioned to take heed of their perceptions about students because these perceptions can and likely do affect their teaching. It is important to realize that teachers' perceptions about students and the expectations they hold for them tend to persist over time. Moreover, these expectations can inhibit teachers from providing some students with appropriate instruction (Goldenberg, 1989). For example, if Brandon's teacher, Mrs. Forsythe, predicts that he will have no difficulty in learning to read because he has good reading-readiness scores and seemingly well-developed language and listening skills, she may not readily adjust her expectations about the likelihood of this child's learning to read without difficulty, even though he is not progressing as well as can be expected. Hence, Mrs. Forsythe may not adjust her instruction for Brandon until he becomes one of the poorest readers in the class. A related point here is that teachers partly interpret students' behaviors in light of their perceptions about students' abilities. In turn, they base important instructional decisions on these interpretations. The need is for teachers to develop perceptions about their students that are broadly-based and to reexamine these perceptions continually so as to make adjustments and act on student behavior that is not consistent with their on-going assessments.

Affective, cognitive, and social aspects of learning are all important factors that must be considered in planning for instruction within the broader context of literacy learning, discipline-based learning, and knowledge construction (Sweet, in press). These factors, when

considered together, give shape to a supportive environment that ensures students' success. For example, the Concept-Oriented Reading Instruction (CORI) model was designed to provide for a supportive instructional environment. In this model, teachers attempt to enhance *individual* and *topic* motivations in all students (Guthrie, 1996). Conceived to foster students' amount and breadth of reading, intrinsic motivations for reading, and strategies of search and comprehension, CORI contains a framework which has five phases of reading instruction in a content domain: observing and personalizing, searching and retrieving, comprehending and integrating, communicating to others, and interacting with peers to construct meaning. Research (Guthrie, Van Meter, Anderson, & Alao, 1996) has shown that the CORI instructional model has been impressively effective at raising the literacy levels of those students who have participated in the project.

Teachers create instructional environments for literacy and related learning that are reflective of research findings (Sweet, in press) which point toward teachers differentiating mostly on activity-based connections to literacy motivations within which students have autonomy and topical interests. Teachers know that students are motivated to read by engaging in activity-based tasks that pique their interest and that enable them to make choices within the boundaries set by the teacher in defining instructional tasks. At the same time, research has shown that although teachers are largely cognizant of these crucial factors, they do not always provide for them in practice. At the very least, this winning combination of motivation-related variables—activity-based connections to reading, student freedom to choose or autonomy, and interest in topic—should be strategically woven into teachers' lesson plans for literacy instruction on a daily basis. Most certainly, teachers can enhance the development of long-term literacy engagement by aligning their motivational support system with their instructional practices.

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APPENDIX A

Teacher Perceptions Questionnaire

Teacher Questionnaire on Student Motivation to Read

(3rd Edition)

Teacher Name: _____ Date: _____

School: _____ Grade: _____

Student Name: _____

Achievement Level (Circle) High Average Low

Report-Card Grade for Reading (Circle) A B C D F

Directions: For each item, circle the choice that best describes the frequency with which the student displays the behavior. Use these descriptions to guide your choices:

Evaluation Responses: Rarely (1) Seldom (2) Sometimes (3) Often (4)

Rarely: You have observed the student exhibit this behavior only once, twice, or never.

Seldom: You have observed the student exhibit this behavior several times over a two-month period.

Sometimes: The student exhibits this behavior once or twice a week.

Often: The student exhibits this behavior nearly every day for substantial amounts of time.

	Rarely	**Seldom**	**Sometimes**	**Often**
For example: Chooses to go to the library	1	2	3	4

Meaning: S/he **Sometimes** chooses to go to the library.

	Rarely	Seldom	Sometimes	Often
1. Is easily distracted while reading	1	2	3	4
2. Does better on reading and writing activities when working alone	1	2	3	4
3. Enjoys reading about a favorite activity	1	2	3	4
4. Is content to read books that are pre-selected by the teacher	1	2	3	4
5. Is a voracious reader	1	2	3	4
6. Writes personal responses in journal regularly and often	1	2	3	4
7. Follows up reading by getting involved in a related activity	1	2	3	4
8. Talks about his/her feelings related to a book or story	1	2	3	4
9. "Hides" in books	1	2	3	4
10. Has definite preferences for favorite topics or authors	1	2	3	4
11. Must be told to get a book to read	1	2	3	4

	Rarely	Seldom	Sometimes	Often
12. Prefers finding his/her own books to read	1	2	3	4
13. Is sharply focused while reading	1	2	3	4
14. Wants to write about what s/he reads	1	2	3	4
15. Has no specialized reading interest	1	2	3	4
16. Avoids participating in reading group activities	1	2	3	4
17. Gets so totally absorbed while reading that s/he does not sense someone approaching	1	2	3	4
18. Is easily discouraged when s/he encounters difficult text	1	2	3	4
19. Spends a long time reading about topics s/he likes	1	2	3	4
20. Wants to do his/her best on reading and writing activities	1	2	3	4
21. Is enthusiastic about reading	1	2	3	4
22. Knows how to choose a book s/he would want to read	1	2	3	4

	Rarely	Seldom	Sometimes	Often
23. Discussion with teachers and peers is complex—including motivations, plot, and personal response	1	2	3	4
24. Has a book nearby and reads it whenever time permits	1	2	3	4
25. Finds out how to understand difficult text by rereading, asking questions, etc.	1	2	3	4
26. Chooses to read about favorite topics	1	2	3	4
27. Does better on reading and writing activities when working with peers	1	2	3	4
28. Does better work when allowed to choose books that interest him/her	1	2	3	4
29. Writes incompletely or superficially in journal	1	2	3	4
30. Does better on reading and writing when they are related to activities s/he has participated in	1	2	3	4
31. Reads frequently about a specialized recreational or extracurricular activity	1	2	3	4

APPENDIX B

Teacher Interview Questions

(Identified Motivational Domain Addressed)

Teacher Interview Questions
(*Identified Motivational Domain Addressed*)

1. Tell me about the task that ___ was working on during the section of the tape we just watched. (*Warm-up*)

2. How does behavior in this section of the tape compare to his/her everyday performance on reading and reading-related tasks? (*Global*)

3. Was interested in the topic s/he was reading, discussing, or writing about in this section of the tape? (*Topical Interest/content*)
   a) Do you think that ___'s level of interest in this topic influenced his/her performance in this task?
   b) If yes, how?
   c) Are there other topics that ____ responds to differently than what you see here?
   d) If yes, how?

4. Was ____ working in a group or more by him/herself in this section of the tape? (*Social*)
   a) Do you think that ____'s working alone (or in a group) influenced his/her level of performance in this task?
   b) If yes, how?
   c) Does ____ behave differently than what you see here when s/he works alone (or in a group?
   d) If yes, how?

5. Who decided what ____ would be doing in this part of the tape? (*Choice/autonomy*)
   a) Do you think that ____'s choice (or lack of choice) influenced his/her performance on this task?
   b) If yes, how?
   c) Does ____'s level of performance in an activity differ when s/he has choice about that activity?
   d) If yes, how?

6. Do you think that ____ was personally interested in the activity in this part of the tape? (*Activity Connection*)
   a) Do you think this affected his/her performance during this task?
   b) If yes, how?
   c) Do you see a change in ____'s performance when the activity involves a favorite subject/hobby/interest of him/her?
   d) If yes, how?

7. Is there anything else you would like to tell me about this student?

APPENDIX C

Quantitative Scoring—*Examples of each score from teacher transcripts*

The teacher is responding to the question regarding the student's responsiveness to social opportunities:

Question: Does X usually perform differently when he can work alone as opposed to working with the group?

Coding Score 1 (*Absolutely No*): "Here again, I would say, no. It goes back to what the activity is too. If it's, like we were saying earlier, if it is something that has a high interest level. If they are working with teams, he is pretty good. He gets along in teams pretty well, and he pretty much stays on task when he is working in team work. And by himself, when he is one, when he decides to focus in he pretty much does you know what he is expected to do and pretty much right on task for that. As far as he's concerned, there is not a real big difference between working independently and working with a group."

Coding Score 2 (*Usually No*): "No. No, (he) doesn't, because when he works by himself he does a good job and whenever he is with a group he also does a good job. He never ... hardly ever varies."

Coding Score 3 (*Neutral*): "He would prefer to work as a group. That would be his choice of learning style; but when he works independently, he still produces good quality work. But he would prefer to do it cooperatively."

Coding Score 3 (*Usually Yes*): "Umm . . . You know I think. Let's see with the group. Well, I know for a fact that when she is working independently, she is even more focused I think. In the group she gets to be a little more social. You know she is social. And sometimes depending on what the task is, it can be a social event sometimes; but I think she is better mostly, I think. I mean she loves working with other people, she gets along well in her teams and in her groups; that's not a problem for her. It's not that she's not focused, she doesn't stay on task; now she does, but like I said initially she did not, but now she does. Now she is focused and she is more confident, I think now, during the year she was not before. And that's why you hear me, you heard me, you'll see in the tape when I tried to mention her writing she was thinking about characteristics of herself."

Coding Score 4 (*Absolutely Yes*): "Yes.... Well, she gives me better answers. She takes a lot of pride in her own work and she doesn't like to share credit a lot with others. Unless she is the total leader in that group, and then she'll share credit. Unless she's the total leader, she doesn't like to share credit with anybody else; she wants to do her own thing."

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